45. (Amended) A signal comprising processor implementable instructions for configuring a processor to carry out a method in accordance with claim 28.

46. (Unamended) A storage medium carrying a computer program product in accordance with claim 44.

47. (Unamended) A computer program product comprising processor implementable instructions for configuring a processor to carry out a method in accordance with claim 32.

48. (Unamended) A computer program product comprising processor implementable instructions for configuring a processor to carry out a method in accordance with claim 42.

REMARKS

The claims now pending in this application are Claims 1-3, 5-7, 9-30, 32-34, and 36-48, with Claims 1, 5, 9, 28, 32, and 42 being the independent claims. Claims 4, 8, 31, and 35 have been cancelled. Claims 1-3, 5-7, 9-16, 18-20, 22-24, 26, 28-30, 32-34, 36-43, and 45 have been amended.

In the Official Action dated May 14, 2002, the abstract, title, and disclosure were objected to for several informalities. In response, the abstract, title, and disclosure have been amended. Favorable consideration is respectfully requested.

Claims 44 and 45 were rejected under 35 U.S.C. § 112 as being indefinite. In particular, it was suggested that the phrase "any one of" be removed from Claim 44. Applicant notes that this phrase does not exist in Claim 44. However, this phrase has been deleted from Claim 43. Additionally, Applicant has amended Claim 45 in view of the Examiner's comments. Favorable consideration is requested.

Claims 1-4, 11-20, 23-31, and 36-41 were rejected under 35 U.S.C. § 102(b) as being anticipated by European Patent Application EP 0 911 808 A1 (Buchner). Claims 5-10, 21, 22, 32-35, 42-44, and 46-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Buchner in view of "well known prior art". Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Buchner in view of "well known prior art" and further in view of European Patent Application EP 0 854 418 A2 (Hemphill). Reconsideration and withdrawal of these rejections are respectfully requested in view of the above amendments and the following remarks.

The rejection of the claims over the cited art respectfully is traversed. Nevertheless, without conceding the propriety of the rejection, Claims 1-3, 5-7, 9-16, 18-20, 22-24, 26, 28-30, 32-34, 36-43, and 45 have been amended to even more clearly recite various novel features of the present invention. Support for the proposed amendments may be found in the original application. No new matter has been added.

Independent Claims 1 and 28 are directed to a control apparatus and method, respectively, for enabling a user to control by spoken commands a function of a processor-controlled machine connectable to a speech processing apparatus.————————

Independent Claims 5 is directed to a control apparatus comprising a JAVA virtual machine for enabling a user to control by spoken commands a function of a processor-controlled machine connectable to a speech processing apparatus.

Independent Claims 32 and 45 are both directed to a method in a control apparatus comprising a JAVA virtual machine for enabling a user to control by spoken commands a function of a processor-controlled machine connectable to a speech processing apparatus.

The independent claims include, inter alia, the feature of interpreting received dialog interpretable instructions using a determined dialog (using the dialog compatible with the processor-controlled machine, in Claim 42) and communicating with a processor-controlled machine using the determined dialog to enable information to be provided to the user in response to the received dialog interpretable instructions, thereby enabling the user to conduct a spoken dialog with the processor-controlled machine.

The independent claims also include, inter alia the feature of communicating with the processor-controlled machine to cause the processor-controlled machine to carry out a function defined by function information (defined by at least one function determined from the device class to be available on the processor-controlled machine, in Claims 5, 9, 32, and 42) in accordance with the spoken dialog conducted by the user with the processor-controlled machine.

The Buchner patent describes a speech interface in a home network environment in which all devices connected to a bus system are controlled by a single speech recognition device. Each time a device is connected to the network the device sends a specific set of "grammars" to the speech unit (2) for storage in memory. The devices connected to the

network must be able to provide grammars and vocabulary that are compatible with the speech unit being used by the network (see column 13, lines 26-45).

However, Buchner fails to disclose or suggest the aforementioned novel features of the present invention.

In contrast to Buchner, the present invention does not require grammar and vocabulary information from a processor-controlled machine, but rather receives from the processor-controlled machine data defining the functions that the machine is capable of performing (whether that function be defined by function information or defined by at least one function determined from the device class to be available on the machine) and data defining a determined dialog or dialog compatible with the machine. By this arrangement, a user is able to conduct spoken dialog with a processor-controlled machine without that processor-controlled machine having to have any knowledge of the voice control arrangement that is being used to enable voice control.
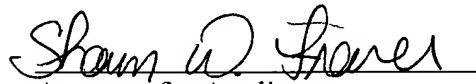
Accordingly, the present invention is allowable over the Buchner patent. The fact that JAVA is a known programming platform does not compensate for the deficiencies of the Buchner patent. Thus, Applicant submits that independent Claims 1, 5, 9, 28, 32, and 42 are allowable over the cited art.

The dependent claims depend from one or another of the independent claims and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of their respective independent claim and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Applicant believes the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submits that the present application is in allowable form. Favorable consideration of the claims and passage to issue of the present application at the Examiner's earliest convenience earnestly are solicited.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.
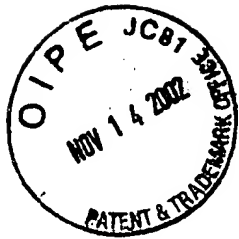
Respectfully submitted,

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MARKED-UP VERSION SHOWING CHANGES TO THE CLAIMS

1. (Amended) A control apparatus for enabling a user to control by spoken commands a function of a processor-controlled machine [couplable] connectable to a speech processing apparatus, the control apparatus comprising:

receiving means for receiving dialog interpretable instructions derived from speech data processed by the speech processing apparatus;

device interface means for communicating with the processor-controlled machine to receive from the processor-controlled machine function information defining the functions available on that processor-controlled machine and dialog information defining a dialog compatible with the processor-controlled machine for enabling the control apparatus to cause the processor-controlled machine to carry out at least one of the available functions;

[dialog communication means for interpreting received dialog interpretable instructions using a dialog compatible with the processor-controlled machine and for communicating with the processor-controlled machine using the dialog to enable information to be provided to the user in response to received dialog interpretable instructions, thereby enabling a dialog to be conducted with the user;]

dialog determining means for determining from the dialog information provided by the processor-controlled machine the dialog to be used for communicating with [that] the processor-controlled machine; [and]

dialog communication means for interpreting received dialog interpretable

instructions using the determined dialog and for communicating with the processor-controlled

machine using the determined dialog to enable information to be provided to the user in response

to received dialog interpretable instructions, thereby enabling the user to conduct a spoken dialog

with the processor-controlled machine; and

machine communication means for communicating with the processor-

controlled machine to cause the processor-controlled machine to carry out a function defined by

the function information in accordance with the spoken dialog conducted by [dialog with] the

user with the processor-controlled machine.

2.   (Amended) A control apparatus according to claim 1, wherein the

control apparatus is [couplable] connectable to a network and the dialog determining means is

arranged to determine the location on the network of [a file for that] the determined dialog.

3.   (Amended) A control apparatus according to claim 1, further

comprising storing means for causing the determined dialog to be stored in a dialog store of the

control apparatus.

4.   CANCELLED

5.   (Amended) A control apparatus comprising a JAVA virtual machine for enabling a user to control by spoken commands a function of a processor-controlled machine [couplable to] <u>connectable</u> to <u>a</u> speech processing apparatus, the JAVA virtual machine comprising:

receiving means <u>for</u> receiving dialog interpretable instructions derived from speech processed by the speech processing apparatus;

<u>device identifying means for receiving information from the processor-controlled machine relating to a device class of the processor-controlled machine, for determining from the device class the dialog to be used with that processor-controlled machine, and for using the JAVA reflection API to determine from the device class information regarding the functions available on that processor-controlled machine,</u>

<u>dialog communication means for interpreting the received dialog interpretable instructions using the determined dialog;</u>

<u>dialog communicating means for communicating with the processor-controlled machine using the determined dialog to enable information to be provided to the user in response to the received dialog interpretable instructions, thereby enabling the user to conduct a spoken dialog with the processor-controlled machine; and</u>

[dialog communication means for interpreting, using a dialog compatible with the processor-controlled machine, received dialog interpretable instructions,

a dialog communicating means for communicating with the processor-controlled machine using the dialog to enable information to be provided to the user in response

to received dialog interpretable instructions, thereby enabling the processor-controlled machine

to conduct a dialog with the user;

dialog determining means for determining from a device class determined from

information provided by the processor-controlled machine the dialog to be used with that

processor-controlled machine; and]

machine communication means for communicating with the processor-

controlled machine to cause the processor-controlled machine to carry out [a function] at least

one function determined from the device class to be available on the processor-controlled

machine in accordance with the [dialog with the user] spoken dialog conducted by the user with

the processor-controlled machine.

6.   (Amended) A control apparatus according to Claim 5, wherein the

control apparatus is [couplable] connectable to a network and the dialog [determining]

identifying means is arranged to determine from the device class the location on the network of

[a file for] the dialog for [that] the processor-controlled machine.

7.   (Amended) A control apparatus according to claim 5, further

comprising storing means for causing the determined dialog to be stored in a dialog store of the

control apparatus.

8.   CANCELLED

9.   (Amended) A control apparatus for enabling a user to control by spoken

commands a function of a processor-controlled machine [couplable] connectable to a speech

processing apparatus, the control apparatus comprising a JAVA virtual machine having:

receiving means for receiving dialog interpretable instructions derived from

speech data processed by the speech processing apparatus;

device interface means for receiving from the processor-controlled machine

information identifying and representing the device class for the processor-controlled machine;

dialog determining means for determining from the information provided by

the processor-controlled machine a dialog to be used for communicating with the processor-

controlled machine;

[dialog interpreting means for interpreting, using a dialog compatible with the

processor-controlled machine, received dialog interpretable instructions;

dialog communication means for communicating with the processor-controlled

machine using the dialog to enable information to be provided to the user in response to received

dialog interpretable instructions, thereby enabling the processor-controlled machine to conduct a

dialog with the user;

device interface means for receiving from the processor-controlled machine

information identifying or representing the device class for that processor-controlled machine;]

function determining means for using [the] a JAVA reflection API to

determine from the device class information regarding [the processor-controlled machine]

functions available on [that] the processor-controlled machine; [and]

<u>dialog communication means for interpreting received dialog interpretable</u>

<u>instructions using the determined dialog and for communicating with the processor-controlled</u>

<u>machine using the determined dialog to enable information to be provided to the user in response</u>

<u>to the received dialog interpretable instructions; and</u>

machine communication means for communicating with the processor-

controlled machine to [cause the processor-controlled machine to] carry out [a] <u>at least one</u>

function <u>determined from the device class to be available on the processor-controlled machine</u> in

accordance with [the] <u>spoken dialog conducted by the user with the processor-controlled machine</u>

[dialog with the user].

10.   (Amended) A control apparatus according to claim 5, having a job

listener registering means for registering a job listener to receive from the processor-controlled

machine information relating to events occurring at the <u>processor-controlled</u> machine.

11.   (Amended) A control apparatus according to claim 1, wherein a dialog

has a number of dialog states and the dialog communication means is arranged to control the

dialog state in accordance with <u>the</u> received dialog interpretable instructions.

12.   (Amended) A control apparatus according to claim 1, wherein the

dialog communication means is arranged to supply to the speech processing apparatus

information relating to [the] speech recognition grammar [or grammars] to be used for processing

speech data in accordance with a dialog state.

13.   (Amended) A control apparatus according to claim 1, <u>further</u>

comprising audio data receiving means for receiving speech data and audio data transmitting

means for transmitting received speech data to the speech processing apparatus.

14.   (Amended) A control apparatus according to claim 1, <u>further</u>

comprising network interface means for communicating with the speech processing apparatus

over a network.

15.   (Amended) A control apparatus according to claim 1, comprising

network interface means for communicating with [a] <u>the</u> processor-controlled machine over a

network.

16.   (Amended) A control apparatus according to claim 1, comprising

remote communication means for communicating with at least one of the speech processing

apparatus and [a] <u>the</u> processor-controlled machine.

18.   (Amended) A voice-control controller comprising a control apparatus

in accordance with claim 1 and <u>a</u> speech processing apparatus comprising:

speech [recognising] <u>recognizing</u> means for [recognising] <u>recognizing</u> speech

in received audio data using [at least one] speech recognition grammar;

speech interpreting means for interpreting [recognised] <u>recognized</u> speech to

provide dialog interpretable instructions; and

transmitting means for transmitting the dialog interpretable instructions to the

dialog communication means.

19.   (Amended) A processor-controlled machine arranged to be connected

to a control apparatus in accordance with claim 1, wherein the processor-controlled machine

comprises:

machine control circuitry for carrying out at least one function;

storing means for storing information [for at least one of a dialog file and]

<u>relating to</u> a device class <u>defining a dialog to be used with the processor-controlled machine and</u>

<u>functions available on the machine;</u>

a processor for controlling the machine control circuitry; and

means for providing said information to the control apparatus for enabling the

dialog determining means to determine the dialog to be used with the processor-controlled

machine.

20.   (Amended) A processor-controlled machine arranged to be connected to a control apparatus in accordance with claim [1] 5, wherein the processor-controlled machine comprises[;]:

machine control circuitry for carrying out at least one function;

storing means for storing a device class for the processor-controlled machine, the device class defining a dialog to be used with the processor-controlled machine and functions available on the machine;

a processor for controlling the machine control circuitry; and

means for supplying the device class to the control apparatus.

22.   (Amended) A processor-controlled machine according to claim 19, comprising at least one of:

a television receiver, a video cassette recorder, a microwave oven, a digital camera, a printer, a photocopier, a facsimile machine, a lighting system, and a heating system.

23.   (Amended) A device [couplable] connectable to a network comprising a processor-controlled machine in accordance with claim 19 [and a control apparatus in accordance with claim 1].

24.   (Amended) A device according to claim 23, wherein the device or the control apparatus[, control device or controller] is integrated with the processor-controlled machine.

26.   (Amended) A system comprising a plurality of devices in accordance with claim 23, and a speech processing apparatus connectable to the devices via a network [and], said system comprising:

means for receiving audio data representing speech by a user;

speech recognition means for [recognising] recognizing speech in the received audio data;

speech interpreting means for interpreting the [recognised] recognized speech to provide the dialog interpretable instructions; and

transmitting means for transmitting the dialog interpretable instructions over the network to at least one of said devices.

28.   (Amended) A method of enabling a user to control by spoken commands a function of a processor-controlled machine connectable to a speech processing apparatus, the method comprising a control apparatus carrying out the steps of:

receiving dialog interpretable instructions derived from speech data processed by the speech processing apparatus;

communicating with the processor-controlled machine to receive from the processor-controlled machine function information defining functions available on the processor-controlled machine and dialog information defining a dialog compatible with the processor-controlled machine for enabling the control apparatus to cause the processor-controlled machine to carry out at least one of the available functions in accordance with a spoken command;

determining from the dialog information provided by the processor-controlled machine a dialog to be used for communicating with the processor-controlled machine;

interpreting received dialog interpretable instructions using the determined dialog and communicating with the processor-controlled machine using the determined dialog to enable information to be provided to the user in response to the received dialog interpretable instructions, thereby enabling the user to conduct a spoken dialog with the processor-controlled machine; and

communicating with the processor-controlled machine to cause the processor-controlled machine to carry out a function defined by the function information in accordance with the spoken dialog conducted by the user with the processor-controlled machine. [In a control apparatus enabling a user to control by spoken commands a function of a processor-controlled machine couplable to speech processing apparatus, a method comprising:

determining from information provided by the processor-controlled machine a dialog to be used with that processor-controlled machine;

receiving dialog interpretable instructions derived from speech processed by the speech processing apparatus;

interpreting received dialog interpretable instructions using the determined

dialog; and

communicating with the processor-controlled machine using the dialog to

enable the processor-controlled machine to provide information to the user in response to

received dialog interpretable instructions, thereby enabling the processor-controlled machine to

conduct a dialog with the user.]

29.   (Amended) A method according to claim 28, [which comprises] further

comprising the step of determining the location on a network of a file for the dialog.

30.   (Amended) A method according to claim 28, further comprising the

step of storing the dialog in a dialog store of the control apparatus.

31.   CANCELLED

32.   (Amended) A method in [In] a control apparatus comprising a JAVA

virtual machine for enabling a user to control by spoken commands a function of a processor-

controlled machine [couplable] connectable to a speech processing apparatus, [a] the method

comprising the steps of:

[determining from information provided by the processor-controlled machine relating to or identifying a device class for that machine a dialog to be used with that processor-controlled machine;]

receiving dialog interpretable instructions derived from speech processed by the speech processing apparatus;

receiving information from the processor-controlled machine relating to a device class of the processor-controlled machine;

determining from the device class the dialog to be used with the processor-controlled machine;

using a JAVA reflection API to determine from the device class information, functions available on the processor-controlled machine;

interpreting received dialog interpretable instructions using the determined dialog;

communicating with the processor-controlled machine using the determined dialog to enable information to be provided to the user in response to received dialog interpretable instructions, thereby enabling the user to conduct a spoken dialog with the processor-controlled machine; and

communicating with the processor-controlled machine to cause the processor-controlled machine to carry out at least one function determined from the device class to be available on the processor-controlled machine in accordance with the spoken dialog conducted by the user with the processor-controlled machine.

[receiving dialog interpretable instructions derived from speech processed by the speech processing apparatus;

interpreting received dialog interpretable instructions using the dialog; and

communicating with the processor-controlled machine using the dialog to enable the processor-controlled machine to provide information to the user in response to received dialog interpretable instructions, thereby enabling the processor-controlled machine to conduct a dialog with the user.]

33.   (Amended) A method according to claim 32, [which comprises] further comprising the step of determining from the device class the location on a network of a file for the dialog for the processor-controlled machine.

34.   (Amended) A method according to claim 32, further comprising the step of storing the dialog in a dialog store of the control apparatus.

35.   CANCELLED

36.   (Amended) A method according to claim 28, wherein [a] the determined dialog has a number of dialog states and the dialog state is controlled in accordance with the received dialog interpretable instructions.

37.   (Amended) A method according to claim 28, wherein information

relating to [the] speech recognition grammar [or grammars] to be used for processing speech data

is supplied to the speech processing apparatus in accordance with a dialog state.

38.   (Amended) A method according to claim 28, further comprising the

step of [received] receiving speech data and transmitting received speech data to the speech

processing apparatus.

39.   (Amended) A method according to claim 28, further comprising the

step of communicating with the speech processing apparatus over a network.

40.   (Amended) A method according to claim 28, further comprising the

step of communicating with [a] the processor-controlled machine over a network.

41.   (Amended) A method according to claim 28, further comprising the

step of communicating via a remote communication link with at least one of the speech

processing apparatus and [a] the processor-controlled machine.

42.   (Amended) A method in [In] a control apparatus comprising a JAVA

virtual machine for enabling a user to control by spoken commands a processor-controlled

machine [couplable] <u>connectable</u> to <u>a</u> speech processing apparatus, [a] <u>the</u> method comprising <u>the steps of</u>:

receiving from the processor-controlled machine information [regarding the] <u>identifying and representing a</u> device class for [that] <u>the</u> processor-controlled machine;

<u>determining from the information provided by the processor-controlled machine a dialog to be used for communicating with the processor-controlled machine;</u>

<u>using the JAVA reflection API to determine, from the device class information, functions available on the processor-controlled machine;</u>

receiving dialog interpretable instructions derived from speech <u>data</u> processed by the speech processing apparatus;

interpreting, using [a] <u>the</u> dialog compatible with the processor-controlled machine, received dialog interpretable instructions; [and

communicating with the processor-controlled machine using the dialog to enable the processor-controlled machine to provide information to the user in response to received dialog interpretable instructions, thereby enabling the processor-controlled machine to conduct a dialog with the user; and using the JAVA reflection API to determine from the device class information regarding the processor-controlled machine functions available on that processor-controlled machine]

<u>communicating with the processor-controlled machine using the dialog to enable information to be provided to the user in response to the received dialog interpretable</u>

instructions, thereby enabling the user to conduct a spoken dialog with the processor-controlled

machine; and

communicating with the processor-controlled machine to cause the processor-

controlled machine to carry out at least one function determined from the device class to be

available on the processor-controlled machine in accordance with the spoken dialog conducted

by the user with the processor-controlled machine.

43.   (Amended) A computer program product comprising processor

implementable instructions for configuring a processor to provide a control apparatus in

accordance with [any one of] claim 1.

45.   (Amended) A signal comprising [a computer program product in

accordance with claim 43] processor implementable instructions for configuring a processor to

carry out a method in accordance with claim 28.

MARKED-UP VERSION SHOWING CHANGES TO THE SPECIFICATION

IN THE TITLE:

Please amend the title to read as follows:

--[A] CONTROL APPARATUS USING SPEECH--.

IN THE SPECIFICATION:

Please substitute the paragraph beginning at page 14, line 11 and ending at page 15, line 4, as follows.

--In this example, the script interpreter 347 is an ECMAScript interpreter (where ECMA stands for European Computer Manufacturer's Association and ECMAScript is a non-proprietary standardised version of Netscape's JAVAScript and Microsoft's Jscript). A CD-ROM and printed copies of the current ECMA-290 ECMAScript components specification can be obtained from ECMA 114 Rue du Rhone CH-1204, Geneva, Switzerland. A free interpreter for ECMAScript is available from http://home.worldcom.ch/jmlugrin/fesi. As another possibility the dialog manager 340 may be run as an applet inside a web browser such as Internet Explorer 5 enabling use of the browser's own ECMAScript Interpreter. The dialog manager 340 also communicates with a client module 343 which communicates [with the dialog manager 340,] with an audio module 344 coupled to the audio device 5 and with a server module 345.--.

Please substitute the paragraph beginning at page 37, line 1 ending at line 11, as follows.

--The operation of this system will be similar to that described with reference to Figure 8 with the exception that the audio device 5 is not a telephone but rather a microphone or like device that provides direct audio connection to the audio module 244. Again in this example, the initial step of the dialog may require the user to utter phrases such as "I am at machine X" or "connect me to machine X". In other respects, the system shown in Figure 11 will function in a similar manner to that shown in Figure 8. This arrangement may be [particular] particularly advantageous in a home environment.--.

MARKED-UP VERSION SHOWING CHANGES TO THE ABSTRACT

Please rewrite the Abstract of the Disclosure as follows:

--A control apparatus enables speech control of a processor-controlled machine connectable to speech a processing apparatus. The control apparatus provides: a client module for receiving dialog interpretable instructions derived from speech data processed by the speech processing apparatus; a dialog communication arrangement for interpreting received dialog interpretable instructions using a dialog compatible with the machine and for communicating with the processor-controlled machine using the dialog to enable information to be provided to the user in response to received dialog interpretable instructions, thereby enabling a dialog to be conducted with the user; a dialog determiner for determining from information provided by the machine the dialog to be used with that machine; and a machine communicator communicating with the machine to cause the machine to carry out a function in accordance with the dialog with the user.--.